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The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MICHAEL DAVID BROOKSHIRE

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Appeal 2009-0457  
Application 10/613,281  
Technology Center 3600

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Decided:<sup>1</sup> April 16, 2009

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Before LINDA E. HORNER, JOHN C. KERINS, and,  
MICHAEL W. O'NEILL, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

## STATEMENT OF THE CASE

Michael David Brookshire (Appellant) seeks our review under 35 U.S.C. § 134 of the Examiner's decision rejecting claims 25-44. Claims 1-24 have been cancelled. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

We AFFIRM.

## THE INVENTION

The Appellant's claimed invention is an arrangement of facets on a naturally occurring gemstone designed to enhance brilliance and scintillation. Spec. 1:4-5. Claim 25, reproduced below, is representative of the subject matter on appeal.

25. A naturally occurring precious gemstone, comprising:

a pavilion having a plurality of facets extending from a common point radially to a girdle region around a circumference of the naturally occurring precious gemstone; and

a crown meeting the pavilion in the girdle region, wherein the girdle region extends no further than the widest circumference of the crown and the pavilion extends no further than the widest circumference of the girdle region, the crown being a symmetrical hemisphere formed from a plurality of rows of facets with an equal number of facets in each row, the plurality of rows of facets extending continuously from the girdle region to the top point of the crown of the naturally

occurring precious gemstone, each row of facets being cut with respect to a reference line tangential to the top point of the crown, a first row of facets being cut about 15 degrees, a second row of facets being cut about 19 degrees, a third row of facets being cut about 25 degrees, a fourth row of facets being cut about 30 degrees, a fifth row of facets being cut about 34 degrees, a sixth row of facets being cut about 38 degrees, a seventh row of facets being cut about 46 degrees, an eighth row of facets being cut about 56 degrees, a ninth row of facets being cut about 65 degrees, a tenth row of facets being cut about 75 degrees, and an eleventh row of facets being cut about 90 degrees.

#### THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Meyer	US 250,378	Dec. 6, 1881
Schenk (hereinafter "Schenk '938")	US D35,938	Jun. 10, 1902
Schenk (hereinafter "Schenk '724")	US D43,724	Mar. 18, 1913

Vargas, Glenn & Martha, "Diagrams for Faceting," Vol. II, Desert Printing Co. Indio, CA (1983) (hereinafter, "Diagrams for Faceting").<sup>2</sup>

Appellant seeks our review of the following rejections:

1. The Examiner rejected claims 25-44 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellant regards as the invention.

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<sup>2</sup> While the Answer recites the date of this publication as 1986, the copyright date is 1983, and the second printing was in 1986. This error does not change the status of the reference as prior art.

2. The Examiner rejected claims 25-44 under 35 U.S.C. § 103(a) as unpatentable over “Diagrams for Faceting”, Meyer, Schenk ‘938 and Schenk ‘724.

### ISSUES

The Examiner found the phrase “naturally occurring precious gemstone” is indefinite under 35 U.S.C. § 112, second paragraph, because a gemstone is a stone that has been altered by human hands, and does not naturally occur. Ans. 3.

Appellant contends that the claim is not indefinite because the phrase in question is intended to convey that the gemstone originates from natural sources, and because a person of ordinary skill in the art would understand that the subject matter of the claimed invention is directed to the modification of naturally occurring gemstones into a precious state as recited in the claims. Reply Br. 2-5.

The first issue before us is:

Has Appellant shown that the Examiner erred in determining that the phrase “naturally occurring precious gemstone” renders the claims so indefinite that a person of ordinary skill in the art would not understand what is being claimed?

The Examiner found that claims 25-44 were unpatentable over “Diagrams for Faceting,” Meyer, Schenk ‘724, and Schenk ‘938. Ans. 4-5. In particular, the Examiner found that “Diagrams for Faceting” discloses faceting designs for use on precious naturally occurring stones including the “Mogul Cut” which has eight rows of crown facets cut at varying angles, but it does not disclose a crown in the shape of a symmetrical hemisphere or

eleven rows of crown facets. *Id.* The Examiner points to Meyer, Schenk ‘724, and Schenk ‘938 as examples of patents disclosing a crown in the shape of a symmetrical hemisphere with rows of facets cut at varying angles along the outside of the surface of the hemisphere. *Id.* The Examiner determined that it would have been an obvious design choice to cut eleven rows of crown facets and to make the crown in the shape of a symmetrical hemisphere with pavilion facets as claimed “in order to produce an aesthetically pleasing gemstone.” Ans. 4-5.

Appellant contends: 1) Meyer, Schenk ‘724, and Schenk ‘938 do not teach or suggest a crown in the form of a symmetrical hemisphere with a plurality of rows of facets with an equal number of facets in each row extending continuously from the girdle to the top point of the crown, and 2) none of the prior art references, taken singularly or in combination, teach or suggest the facet angles recited in the claim. App. Br. 10-13.

The second issue before us is:

Has Appellant shown that the Examiner erred in rejecting claims 25-44 because either 1) Meyer, Schenk ‘724, and Schenk ‘938 do not teach or suggest a crown in the form of a symmetrical hemisphere with a plurality of rows of facets with an equal number of facets in each row extending continuously from the girdle to the top point of the crown, or 2) none of the prior art references teach or suggest the facet angles recited in the claim?

#### FINDINGS OF FACT

We find that the following enumerated facts are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422,

1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Appellant's Specification does not provide a lexicographical definition for a "naturally occurring precious gemstone," nor is a definition provided for any of the terms within that phrase. Spec. *passim*.
2. The Specification consistently refers to the invention as enhancement of a gemstone.
  - a. The "invention relates to methods for cutting gemstones." Spec. 1:4-5.
  - b. "The invention relates in general to cut gemstones and methods for producing the same." Spec. 4:1-2.
  - c. "The invention generally involves faceted gemstones, and methods for cutting such gemstones." Spec. 8:1-2.
  - d. "[T]he aesthetic appeal of a gemstone is often enhanced through polishing and/or cutting." Spec. 1:9.
  - e. "Essentially, the gem cutter's craft involves cutting a stone at different angles." Spec. 1:11-12.
3. The Specification does not refer to the subject matter of the invention as being a naturally occurring gemstone. Spec. *passim*.
4. The ordinary and customary meaning of the term "gemstone" is "a mineral or petrified material that when cut and polished can be used in jewelry." *Webster's Third New International Dictionary, Unabridged* (1961).

5. Appellant's Specification does not provide a lexicographical definition for a "hemisphere." Spec. *passim*.
6. The ordinary and customary meaning of the term "hemisphere" is "either of two half spheres formed by a plane through a sphere's center." *Webster's Third New International Dictionary, Unabridged* (1961).
7. Meyer discloses an imitation precious stone representing a jewel that is used as an ornament, comprised of a raised or stone part, A, which may be any desired shape, and a surrounding flange, B. Meyer, ll. 4-8, 57-63, 93-99; Figs. 1-6.
8. Meyer discloses an embodiment with a flat bottom and a convex top in the shape of a symmetrical hemisphere with facets arranged in rows from the surrounding flange B to the top of the stone part A. Meyer, ll. 41-43, 63-65; Fig. 5.
9. "Diagrams for Faceting" discloses a variety of faceting designs, including a "Mogul Cut" that has a plurality of facets in rows from the girdle to the table (top point of the crown), with the same number of facets in each row (16 facets in each of rows B, M, M', m, and s). "Diagrams for Faceting," page 9, col. 2, Figure at top right.
10. The problem solved by Appellant was to further enhance brilliance (shine) and scintillation (flash/sparkle) of a gemstone through faceting. Spec. 3:16-20; *see also* definitions of brilliance and scintillation at 2:4-6.
11. Appellant does not recite any unexpected results, nor any quantitative measurement of increased brilliance or



- scintillation. *Spec. passim*; App. Br. *passim*; Reply Br. *passim*.
12. While Appellant describes a preferred angle for each row of facets, Appellant does not describe enhancement of brilliance or scintillation as associated with those particular angles. *Spec. passim*; *see also* description of angles at Spec. 9:5 to 10:9.
13. Appellant does not describe the specified angles of each row of facets in the crown as critical.<sup>3</sup> *Spec. passim*; *see also* description of angles at Spec. 9:5 to 10:9.

## PRINCIPLES OF LAW

### *112, second paragraph*

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted).

### *Appellant's Burden*

Appellant has the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (“On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.”) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

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<sup>3</sup> The angle of the pavilion is described as critical, but not the angles of rows in the crown. Spec. 5:1.

*Attacking references individually*

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *See In re Merck & Co.*, 800 F.2d 1091 (Fed. Cir. 1986); *In re Keller*, 642 F.2d 413 (CCPA 1981).

*Obviousness*

“A *prima facie* case of obviousness may be made when the only difference from the prior art is a difference in the range or value of a particular variable. *In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003); *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990).” *In re Kumar*, 418 F.3d 1361 (Fed. Cir. 2005). “Where the difference between the claimed invention and the prior art is some range or other variable within the claims ... , the [patentee] must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results.” *In re Woodruff*, 919 F.2d at 1578.

*Proof of Unexpected Results*

“An applicant cannot prove unexpected results with attorney argument and bare statements without objective evidentiary support.” *CFMT, Inc. v. Yieldup International Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (citing *In re Lindner*, 457 F.2d 506, 508 (CCPA 1972)); *In re Geisler*, 116 F.3d 1465 (Fed. Cir. 1997) (“attorney argument [is] not the kind of factual evidence that is required to rebut a *prima facie* case of obviousness”); and *In re Soni*, 54 F.3d 746, 750 (Fed. Cir. 1995) (“It is well settled that unexpected results must be established by factual evidence. Mere argument or conclusory statements ... [do] not suffice.”) (quoting *In re De Blauwe*, 736 F.2d 699,

705 (Fed. Cir. 1984)). “During prosecution, an applicant may submit objective factual evidence to the PTO in the form of patents, technical literature, and declarations under 37 C.F.R. § 1.132 ... submitting expert testimony and, at times, test data.” *CFMT*, 349 F.3d at 1342.

## ANALYSIS

*Rejection of claims 25-44 under 35 U.S.C. § 112, second paragraph*

The preambles of independent claims 25, 32, and 38 contain the phrase “naturally occurring precious gemstone.”<sup>4</sup>

The claim indicates that the “naturally occurring precious gemstone” is comprised of a pavilion and a crown with a specified number and arrangement of facets. The Specification does not define the phrase “naturally occurring precious gemstone,” or any of the terms within the phrase (Fact 1); however, the Specification consistently refers to the subject matter of the invention as enhancements to a gemstone, and does not refer to the subject matter of the invention as a naturally occurring gemstone (Facts 2-3). The ordinary meaning of “gemstone” is consistent with its usage in the claim, Appellant’s Specification, and Appellant’s argument. In particular, the ordinary meaning of the term “gemstone” is “a mineral or petrified material that when cut and polished can be used in jewelry” (Fact 4), a direct contradiction of the Examiner’s finding that a gemstone cannot occur in nature.

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<sup>4</sup> The phrase is also contained in the body of the claim, but the rejection is only directed to use of the phrase in the preamble. Ans. 3.

A person of ordinary skill in the art, when reading claims 25, 32, and 38 in light of the Specification, would understand that what is claimed is a modification, as specified, of a naturally occurring gemstone into a precious state. As such, claims 25, 32, and 38 are not indefinite, and the Examiner's decision rejecting these claims under the second paragraph of 35 U.S.C. § 112 must be reversed. The Examiner's decision to reject claims 26-31, 33-27, and 39-44 must also be reversed by virtue of their dependence on claims 25, 32, and 38, respectively.

*Rejection of claims 25-44 under 35 U.S.C. § 103(a) as unpatentable over "Diagrams for Faceting", Meyer, Schenk '938, and Schenk '724*

*Claim 25*

Appellant argues claims 25-31 as a group. App. Br. 13. As such, we select claim 25 as the representative claim, and claims 26-31 stand or fall with claim 25. 37 C.F.R. § 41.37(c)(1)(vii) (2008).

Appellant makes four arguments against the Examiner's rejection. First, Appellant contends and the Examiner does not contest that "Diagrams for Faceting" does not disclose a crown in the form of a symmetrical hemisphere. App. Br. 12; Ans. 4.

Second, Appellant contends that Schenk '938, Schenk '724, and Meyer also fail to teach or suggest a crown in the form of a symmetrical hemisphere. App. Br. 12-13.

Appellant does not provide a lexicographical definition of "symmetrical hemisphere" (Fact 5). The ordinary and common meaning of the term "hemisphere" is "either of two half spheres formed by a plane through a sphere's center" (Fact 6). Claim 25, taken in context, means that

the shape of the crown must be a symmetrical half sphere. Meyer discloses an imitation precious stone used as an ornament that may be any desired shape, and includes an embodiment with a flat bottom and a convex top portion that is a symmetrical half sphere (Facts 7, 8).

Third, Appellant further argues that Schenk '938, Schenk '724, and Meyer fail to disclose a plurality of rows of facets with an equal number of facets in each row, wherein the plurality of rows of facets extend continuously from the girdle region to a top point of the crown. App. Br. 12-13. The Examiner, however, found this claimed feature in the "Diagrams for Faceting" reference. Ans. 4. We agree that "Diagrams for Faceting" discloses a "Mogul Cut" having a plurality of facets in rows from the girdle to the point of the crown, with the same number of facets in each row (Fact 9). Appellant fails to properly rebut the Examiner's rejection based on the combined teachings of the references, and unconvincingly makes individual attacks on the references.

Fourth, Appellant contends that none of the references teaches or suggests the specific facet angles of the crown recited in the claim. App. Br. 13. The difference between the claim, and the prior art, is the value of a particular variable, namely, the angle of each row of facets. In particular, "Diagrams for Faceting" discloses rows of facets cut at different angles, but it does disclose the specific angles as claimed (Fact 9). Given this, the Examiner has set forth a *prima facie* case of obviousness, and to rebut this showing, Appellant must show that the particular range is critical, generally by showing the claimed range achieves unexpected results. *In re Woodruff*, 919 F.2d at 1578.

Appellant contends that the claimed cuts “provide the necessary light penetration and reflection to maximize the brilliance and scintillation of the gemstone.” App. Br. 13. Appellant’s statement is attorney argument without objective evidentiary support and does not prove unexpected results. *CFMT, Inc. v. Yieldup International Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003). Nor is there adequate evidentiary support in the Specification, which states only that the Appellant sought to enhance brilliance and sparkle and does not recite any unexpected results (Fact 10, 11). Further, Appellant has not tied the enhanced brilliance and scintillation to the angle of the rows of facets in the crown (Fact 12). Additionally, the Specification does not refer to the angles of the rows of facets as critical (Fact 13), and the angles are claimed as approximations without a specified tolerance range (i.e. “about”). Appellant has not proven the angles of the rows of facets in the crown produce unexpected results or are otherwise critical to the invention.

Appellant has failed to demonstrate the Examiner erred in the rejection of claim 25. Claims 26-31 fall with claim 25.

#### *Claim 32*

The Appellant argues claims 32-37 as a group. App. Br. 16. As such, we select claim 32 as the representative claim, and claims 33-37 stand or fall with claim 32. 37 C.F.R. § 41.37(c)(1)(vii) (2008).

Independent claim 32 is like claim 25, but does not contain the limitation that the crown is a symmetrical hemisphere.

Appellant argues that none of the references teach or suggest: 1) a crown formed from a plurality of rows of facets with an equal number of facets in each row extending continuously from the girdle region to a top point of the crown, and 2) the specific facet angles recited. App. Br. 15. For

the reasons set forth in the analysis of claim 25, *supra*, Appellant has failed to demonstrate the Examiner erred in the rejection of claim 32. Claims 33-37 fall with claim 32.

*Claim 38*

The Appellant argues claims 38-44 as a group. App. Br. 18. As such, we select claim 38 as the representative claim, and claims 39-44 stand or fall with claim 38. 37 C.F.R. § 41.37(c)(1)(vii) (2008).

Independent claim 38 is similar to claim 25, and contains the symmetrical hemisphere limitation, but does not recite the specific angle of each row of facets.

As we noted *supra*, it is uncontested that the “Diagrams for Faceting” reference does not teach a symmetrical hemisphere. App. Br. 17; Ans. 4.

Appellant contends that Schenk ‘938, Schenk ‘724, and Meyer do not teach or suggest a crown in the form of a symmetrical hemisphere and do not teach a plurality of rows of facets with an equal number of facets in each row extending continuously from the girdle region to a top portion of the crown. App. Br. 18. For the same reasons as presented in the analysis of claim 25 *supra*, Appellant has not demonstrated the Examiner erred. Claims 39-44 fall with claim 38.

## CONCLUSION

Appellant has shown that the Examiner erred in rejecting claims 25-44 because the phrase “naturally occurring precious gemstone” is not indefinite, as a person of ordinary skill in the art would understand what is being claimed in light of the Specification.

Appellant has failed to show that the Examiner erred in rejecting claims 25-44 because Meyer teaches a crown in the form of a symmetrical

hemisphere, and because Appellant has not proven the angles of the rows of facets in the crown produce unexpected results or are otherwise critical to the invention.

#### DECISION

We reverse the Examiner's decision to reject claims 25-44 as indefinite under 35 U.S.C. § 112, second paragraph. We affirm the Examiner's decision to reject claims 25-44 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

#### AFFIRMED

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